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**DEPARTMENT OF THE NAVY
JUSTIFICATION OF ESTIMATES
FY 1992/FY 1993 BUDGET ESTIMATES**



SUBMITTED TO CONGRESS FEBRUARY 1991

PROCUREMENT

OTHER PROCUREMENT, NAVY

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Department of the Navy
Other Procurement, Navy

Justification of Estimates for Fiscal Years 1992/1993

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Statement A, per phone call with WES McNair,
Office of the Comptroller-Navy (NFCR-2),
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OTHER PROCUREMENT, NAVY

For procurement, production, and modernization of support equipment and materials not otherwise provided for, Navy ordnance (except ordnance for new aircraft, new ships, and ships authorized for conversion); the purchase of not to exceed 2 vehicles required for physical security of personnel, notwithstanding price limitations applicable to passenger vehicles but not to exceed \$165,000 per vehicle and the purchase of not to exceed 651 passenger motor vehicles of which 621 shall be for replacement only; expansion of public and private plants, including the land necessary therefor, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; [5,627,160,000] \$6,471,200,000, to remain available for obligation until September 30, [1993] 1994 of which [not less than \$160,000,000] \$50,800,000 shall be [for the procurement of sonobuoys: Provided, That of the funds appropriated in this paragraph, not less than \$42,000,000 shall be available only to procure fifty-three Advanced Video Processor units and associated display heads] available for the Navy Reserve.

Further, for the foregoing purposes, including the purchase of not to exceed 591 passenger motor vehicles of which 571 shall be for replacement only, \$6,520,900,000, to become available for obligation on October 1, 1992 and to remain available for obligation until September 30, 1995, of which \$16,500,000 shall be available for the Navy Reserve. (10 U.S.C. 5013, 5063; Department of Defense Appropriations Act, 1991; additional authorizing legislation to be proposed.)

BUDGET ACTIVITY 1: SHIP SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
(\$ In Thousands)
Procurement Actions Programmed)

BUDGET PLAN
(Amounts for Procurement Actions Programmed)

	<u>FY 1990 Actual</u>	<u>FY 1991 Estimate</u>	<u>FY 1992 Estimate</u>	<u>FY 1993 Estimate</u>	<u>Justification Page</u>
SHIP PROPULSION EQUIPMENT	\$15,548	\$22,475	\$31,722	\$35,241	5
GENERATORS AND PUMPS	3,671	16,957	40,480	36,382	6
AIR COMPRESSORS	280	492	185	6,082	6
PROPELLERS	6,293	9,385	12,806	38,451	7
NAVIGATION EQUIPMENT	7,334	8,070	12,809	13,886	7
UNDERWAY REPLENISHMENT EQUIPMENT	7,238	14,566	36,315	36,289	7
PERISCOPEs	15,205	13,061	12,430	16,024	8
OTHER SHIPBOARD EQUIPMENT:					
SHIP SILENCING	17,507	20,873	24,828	33,963	8
STRATEGIC PLATFORM SUPPORT	87,016	57,395	38,078	37,579	9
DEEP SUBMERGENCE	7,310	9,583	4,842	4,988	9
SHIP SUPPORT IMPROVEMENT	7,603	7,780	8,091	7,803	10
MINECLEARING EQUIPMENT	1,805	3,941	3,039	5,670	10
SAFETY EQUIPMENT	19,964	44,284	36,139	41,269	10
MISCELLANEOUS	53,050	116,981	105,716	147,795	11

REACTOR PLANT EQUIPMENT
OCEAN ENGINEERING
STANDARD BOATS
TRAINING EQUIPMENT
PRODUCTION FACILITIES EQUIPMENT
OTHER SHIP SUPPORT

370,375	350,184	347,511	328,233	11-
20,949	6,304	9,914	14,184	12-
17,959	10,390	19,940	20,534	12-
5,300	8,904	7,926	2,359	13-
32,301	19,280	23,708	24,500	13-
2,810,367	647,330	975,245	697,210	13-

TOTAL BUDGET PLAN

\$3,507,075 \$1,388,235 \$1,751,727 \$1,549,042

BUDGET ACTIVITY 1: SHIPS SUPPORT EQUIPMENT

(\$ In Thousands)

FY 1993 Estimate -	\$ 1,549,042
FY 1992 Estimate -	\$ 1,751,727
FY 1991 Estimate -	\$ 1,388,235
FY 1990 Actual -	\$ 3,507,075

Purpose and Scope of Work

Budget Activity 1 programs include Shipboard Components, Reactor Cores and Reactor Plant Components, support of the Deep Submergence, TRIDENT and Standard Boat procurement programs, and Production Facilities and Training equipment. Installation costs have been incorporated into the end item procurement costs across Budget Activities 1, 2, 3, 4 and 7 commencing in FY 1991. In addition, Budget Activity 1 reflects costs for design services, nuclear alterations, program support and other modernization support efforts.

Shipboard components, as well as nuclear components and standard boats, are procured for direct support or installation on Active Fleet ships as part of a planned maintenance replacement program or as part of an improvement program. These components are also procured to fill authorized stock requirements. Funding for the Deep Submergence program is aimed at expanding the Navy's capability to live, work, explore, and perform rescue missions in deep ocean areas.

Justification of Funds**Ship Propulsion Equipment (P-1 Line Items 1-4)**

(\$ In Thousands)

FY 1992	FY 1993
<u>\$31,722</u>	<u>\$35,241</u>

These funds will provide for the procurement and installation of equipment designed to improve the reliability, maintainability, fuel efficiency, power output, and durability of the LM 2500 Gas Turbine Engines. The LM 2500 engines were introduced into the Fleet through the DD-963 and FFG-7 Class construction programs and the Allison 501K Gas Turbine Engine was introduced into the Fleet through the DD-963 and DDG-993 Class ships. These improvements will be accomplished through procurement and installation of modifications identified as a result of the Component Improvement Program. Existing 1200 and 600 PSI Steam Plants require sufficient funds to modify and improve reliability through the procurement of steam plant inspection tooling, high pressure waterjet equipment, boiler hydro test tools, and boiler tube hydraulic removal and expansion equipment.

Funds requested will also procure secondary propulsion motors, shaft seal housing modification kits for ME831-800 engines, support for LCAC gas turbines, support for marine diesel engines, clutch retrofit kits, and outfitting for boiler test centers and a depot modernization program for SSN 688 class submarines.

Generators and Pumps (P-1 Line Items 5 and 6)

(\$ In Thousands)	
FY 1992	FY 1993
\$40,480	<u>\$36,382</u>

Punding requested for these programs will provide for continuation of programs to replace obsolescent, insupportable, underpowered, and unreliable generators and pumps of various capacities and sizes. These programs also procure equipment to support programmed SHIPALTS. Types of equipment procured include an arcing fault detector for SSN and SSBN overhauls; 60/400 Hz motor generator sets for CG, CGN and DDG class overhauls; 1,000 KW ship service diesel generator rotor replacements for FFG-7 class overhauls; 400 Hz static frequency converters for replacement of those on FFG-7 class ships; maintenance pumps; trim and drain pumps for SSN's and SSBN's; centrifugal main feed pumps for CVs/CVNs; and portable power pumps, variable capacity centrifugal pumps, and insurance item material for the surface ship phased maintenance program.

Air Compressors (P-1 Line Item 7)

(\$ In Thousands)	
FY 1992	FY 1993
\$ 185	<u>\$ 6,082</u>

These funds will provide for the procurement and installation of greater capacity and more reliable high pressure air compressors than those currently installed in the Active Fleet. Several machinery alterations will be procured in FY 1992 and FY 1993, as well as, modified drain systems to replace unreliable and unsustainable systems on the 30 CFH air compressors. Funding in FY 1993 will finance MACHALTS for engineering change proposals.

Propellers (P-1 Line Items 8-9)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$ 12,806</u>	<u>\$38,451</u>

The requested funding will provide for the procurement and installation of propellers to reduce the noise signature on PBM and attack submarines and as replacements for those propellers currently installed as casualties occur. Funds are also required for replacement of blades, shafts, and hubs in support of active fleet ships as damage or failure occurs, as well as for support inventories for the never classes of ships such as PFG-7s, CG-47s, LSD-41s, and the DDG-51s.

Navigation Equipment (P-1 Line Items 10-11)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$12,809</u>	<u>\$13,886</u>

These funds will procure and install Electrically Suspended Gyro Navigator field change kits, modification kits and documentation. Funds are also budgeted for maintenance items and newly developed improvements for the AN/WSN-5 Inertial Navigation Sets, plotters, gyro compasses, and for documentation. These improvements provide more precise fire control computation and improved accuracy in support of sophisticated missile systems and for safety.

Underway Replenishment Equipment (P-1 Line Item 12)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$36,315</u>	<u>\$36,889</u>

The equipment procured under this program is required to provide the Active Fleet with new or improved underway replenishment-at-sea capability. This equipment is used to transfer fuel, cargo, ammunition, and missiles by both alongside and vertical replenishment techniques. The equipment being procured supports the following objectives: personnel/equipment safety, reduction in maintenance costs, and reduction in alongside time, to minimize ship vulnerability to enemy action.

Major equipment includes highline spanwire winches, sliding padeyes, sliding block slip clutches, flotation devices, and Burton Navy standard spanwire winches, vertical conveyors, saddle winches, crane improvements, tension rigging winches, cargo delivery stations, and elevator improvements.

Periscopes (P-1 Line Items 13 and 14)

(\$ In Thousands)

	FY 1992	FY 1993
	\$12,430	\$16,024

These funds will provide for the procurement of Type 18 periscope related material and other periscopes and accessories. The Type 18 periscope equipment includes eyepiece boxes and masts required to establish an inventory of these parts based on actual/predicted failure rates and turn around times and Automatic Direction Finding (ADF) modifications to provide ADP capability on SSN-637 and 688 class submarines. Funds are required to procure a Submarine Satellite Information Exchange reception capability on Type 18 periscopes. Type 18 periscope systems will also be procured to establish a rotatable pool of ready-for-issue assets in support of the depot modernization program for SSN 688 class submarines. Field change kits are being procured to implement approved changes on previously procured Type 18 periscopes. Equipment to provide additional shore/tender based components for other type periscopes is also required to ensure that an issuable periscope is always available as a replacement for damaged units on SSN-637 class ships. This requirement is based on past demand experience and repair turnaround time. Modifications for Type 8 periscopes to incorporate solid state amplifiers, twelve-channel rotary joints, and improved slip ring assemblies, noise source and sapphire heated head window assemblies will be procured and installed. Type 8 Mod 3 periscopes are funded for installation on SSN-637/688's. The improvement over existing equipment is enhanced imaging and communications. Funding will also provide for support and improvement of the Type 2 and 15 series periscopes for all Active Fleet submarines.

Other Shipboard Equipment (Ship Silencing) (P-1 Line Items 18 and 19)

(\$ In Thousands)

	FY 1992	FY 1993
	\$24,828	\$33,963

The requested funds will provide for the procurement and installation of equipment required to implement the high priority Submarine Silencing program on existing nuclear submarines and for the acoustic quieting of radiated noise and sonar self-noise for surface ships. The submarine silencing equipment incorporates technology developed under RDT&E programs for improving detection capability

and reducing the detectability of the submarine. The surface ship silencing program will make use of the extensive silencing technology already developed under the Submarine Silencing Program. FY 1992 and FY 1993 funding for the submarine silencing program includes procurement of equipments supporting the east and west coast acoustic measurement facilities and the noise vibration alert and monitoring system. In addition, FY 1992 and FY 1993 funding for surface ships provides for the procurement of cascade orifice resistive devices for FFG-7 class ships; fluid acoustic filters and flexible hose couplings for installation in ship service diesel generator piping on FFG-7 class ships; sound isolation kits for DD-963/DDG-993/FFG-7 class ships to reduce radiated noise; portable hydrophone arrays and passive acoustic monitoring systems for DD-963/DDG-993/CG-47 class ships; acoustic damping materials and treatments to reduce unacceptable airborne noise levels to prevent hearing loss; allow effective communication and improve habitability; hull coating for CGN-38 class ships; sonar dome baffles for DD-963 and DDG-993 class ships; and instrumentation for the Surface Ship Silencing/Trials program.

Other Shipboard Equipment (Strategic Platform Support) (P-1 Lines Item 21 and 22)

(\$ In Thousands)	
FY 1992	FY 1993
\$38,078	\$37,579

Funding for this program provides for hull, mechanical, and electrical equipment required to support maintenance tasks for TRIDENT submarines. The equipment is required to support the operating tempo of PBM submarines and includes funding to develop stock levels for TRIDENT plant equipment and repair (TRI/ER) equipments to achieve the required operational availability and to achieve a depot availability period which does not exceed one year; alteration/modification packages for TRIPER equipment to maintain standardization and interchangeability of offsets; long lead material equipment for the advanced equipment replacement program, main shaft seal mating rings, and alteration/modification packages for hull, mechanical and electrical equipment.

Other Shipboard Equipment (Deep Submergence) (P-1 Line Item 23)

(\$ In Thousands)	
FY 1992	FY 1993
\$ 4,842	\$ 4,988

The requested funds will provide for the procurement and installation of hardware to improve/modify Deep Submergence Vehicles to provide the Navy with the capability to rescue personnel from craft disabled on the ocean floor. It also will improve the capability to perform manned underwater search, inspection and recovery missions.

Other Shipboard Equipment (Surface IMA) (P-1 Line Item 28)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$ 8,091</u>	<u>\$ 7,803</u>

This program will procure equipment necessary to achieve operational availability and provide funds to upgrade facilities both ashore and afloat (industrial plant and tenders) in order to improve and expand intermediate level maintenance by the surface forces. Shipboard maintenance will emphasize modular replacement with repairables being returned to Intermediate Maintenance Activities and Depot Overhaul Points for repair or rework and return to stock.

Other Shipboard Equipment (Minesweeping Equipment) (P-1 Line Item 26)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$ 3,719</u>	<u>\$ 5,670</u>

This program will provide for the procurement of minesweeping cables necessary to counter moored and influence mines. These funds will procure neutralization system vehicles, and the single ship deep sweep system which will allow MHC Class ships to sweep moored mines at various depths.

Other Shipboard Equipment (Safety Equipment) (P-1 Line Items 15, 30, and 32)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$36,139</u>	<u>\$41,269</u>

These funds procure and install equipment which supports shipboard fire fighting operations, fuel tank inspection, and other activities which can involve the exposure of lungs to noxious substances. Funding will provide the Navy with the latest available safety equipment in order to perform assigned tasks without risking personal injury, provide for the protection of personnel from exposure to nuclear weapons radiation and provide ships of the active fleet with the capability to detect chemical warfare agents before ship contamination occurs. FY 1992 and FY 1993 funding will provide Halon 1301 Fire Fighting systems to complement the existing Aqueous Film Forming Foam/Purple K Dry Chemical Powder hose reel systems in machinery spaces as well as procurement of this system in a mobile/portable form; Oxygen-Breathing Apparatus Voice Amplifiers to improve communications between fire fighting team members; damage control wire free communication systems; shielding which

will be affixed to bulkheads and to cradles containing individual weapons on CVs, SSN-688s, non-PBM ASs and at shore facilities; support for the Radiological Affairs Support Office, and chemical warfare directional detectors, chemical agent point detector systems and chemical agent monitors.

Other Shipboard Equipment (Miscellaneous) (P-1 Line Items 16, 17, 20, 24, 25, 27, 29, 31, 33, & 34)

(\$ In Thousands)		
FY 1992	FY 1993	FY 1994
<u>\$105,716</u>	<u>\$147,795</u>	<u>\$147,795</u>

These funds provide for; procurement and installation of Combat System Command and Control Switchboards; equipment which will enable the Navy to comply with Federal law and DOD environmental pollution control regulations; replacement batteries for all active submersible craft/submarines; procurement and positioning of special equipment for merchant ships to provide them with the capability to perform Naval auxiliary roles; provision of specialized equipment to assure reliable repair of electronic modules at selected shore, surface and subsurface fleet activities; air conditioners and equipment for submarines; degaussing equipment for surface ships; and modifications/replacements for equipment which costs less than \$2,000,000 by category.

Reactor Plant Equipment (P-1 Line Items 35 and 36)

(\$ In Thousands)		
FY 1992	FY 1993	FY 1994
<u>\$347,511</u>	<u>\$328,233</u>	<u>\$328,233</u>

These provide for the procurement of one replacement reactor power unit in FY 1992, and other reactor plant components and equipment in FY 1992 and FY 1993. Replacement cores and power units are the assemblies of nuclear fuel and necessary associated structural and reactivity control equipment required for the periodic refueling of nuclear powered ships. The procurement of these units is accomplished by the Department of Energy (DOE). The DOE has developed production lines within the civilian nuclear industry to fabricate these units. The funds requested are required to meet the refueling needs of the Navy in a manner most efficient to the government, while ensuring adequate workload to support the industrial base. The reactor component line item includes the components, equipment, and material required to provide minimum support needed for the continued safe and reliable operations of naval nuclear propulsion plants. Funds are programmed for acquisition of replacement components for ship alterations and specialized equipment necessary for refueling of nuclear powered ships.

(\$ In Thousands)

	FY 1992	FY 1993
	\$ 9,914	\$14,184

These programs provide for the procurement of equipment to support safety requirements at the existing depth capabilities and mission duration restriction imposed on the working diver, equipment to improve the Navy's diving capabilities and maintain sufficient levels of critical salvage items, and improved equipment developed as part of Swimmer Support Systems for Underwater Demolition Teams, and Inshore Undersea Warfare Groups. FY 1992 and FY 1993 funds will procure the lightweight diving systems; portable recompression chambers; synthetic line; sonar systems for the unmanned submersibles ORION, DEEP DRONE, and CURV III; salvage air compressors; underwater non-destruction test systems; reverse osmosis water purification unit marinization kits; fly away deep ocean salvage systems; 30KW generators; underwater breathing apparatus support packages; underwater remotely operated vehicles; expendable ordnance disposal inflatable craft; chemical warfare protective diving suits; Special Warfare group, and Naval Forces dry suits outfitting; dry deck shelter improvements; rigid inflatable boats; night vision equipment; communications and navigation equipment; and radar beacon transponders.

Standard Boats (P-1 Line Item 40)

(\$ In Thousands)

	FY 1992	FY 1993
	\$19,940	\$20,534

Standard boats procured with these funds will be used to fill new or revised allowances, to replace obsolete wooden boats now in service, and to replace boats of fiberglass or steel construction which are beyond economical repair. Types of boats to be procured with these funds include the 50' workboat and utility boat; 22' utility boat; 33' utility boat; 26' motor whaleboat; 40' plane personnel and rescue boat; 65' Explosive Ordnance Disposal Craft and and 56' range support boat.

Training Equipment (P-1 Line Item 41)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$ 7,929</u>	<u>\$ 2,359</u>

This program provides equipment for the support of initial training requirements developed through the Navy Training Plan process and sustaining training requirements developed by the Chief of Naval Education and Training.

Production Facilities Equipment (P-1 Line Items 42 and 43)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$23,708</u>	<u>\$24,500</u>

These programs provide for the procurement of replacement cranes for the floating dry dock at Norfolk Naval Shipyard, funding required for industrial plant equipment and other shop equipment necessary to support Navy managed facilities; machine tools, industrial plant equipment and other plant equipment necessary to support the Fleet Operations Program.

Other Ship Support (P-1 Line Items 44-47)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$975,245</u>	<u>\$697,210</u>

Commencing in FY 1991 installation costs have been incorporated into the end item procurement costs. The funding remaining in Other Ship Support will fund design services for shipboard alterations, program support, and nuclear alteration and other modernization support efforts costs.

BUDGET ACTIVITY 2: COMMUNICATIONS AND ELECTRONIC EQUIPMENT
 SUMMARY OF BUDGET PLAN
 (\$ In Thousands)

BUDGET PLAN
 (Amounts For Procurement Actions Programmed)

	<u>PY 1990 ACUTAL</u>	<u>PY 1991 ESTIMATE</u>	<u>PY 1992 ESTIMATE</u>	<u>PY 1993 ESTIMATE</u>	<u>JUSTIFICATION PAGE</u>
SHIP RADARS	98,073	110,048	84,664	86,271	16
SHIP SONARS (SURFACE SHIPS)	198,942	303,098	349,470	197,904	17
SHIP SONARS (SUBMARINES)	84,836	135,782	168,040	184,986	17
SHIP SONARS (GENERAL SUPPORT)	29,763	30,125	45,455	44,403	18
ANTI-SUBMARINE WARFARE ELECTRONICS (SURFACE SHIPS)	32,589	41,162	27,882	47,824	18
ANTI-SUBMARINE WARFARE ELECTRONICS (SUBMARINE)	168,644	107,637	211,873	167,185	19
ANTI-SUBMARINE WARFARE ELECTRONICS (AVIATION)	15,890	4,020	40,695	25,669	19
ANTI-SUBMARINE WARFARE ELECTRONICS (SURVEILLANCE)	35,287	42,320	113,204	137,552	19
ELECTRONIC WARFARE EQUIPMENT	101,361	108,154	165,049	170,080	20
RECONNAISSANCE EQUIPMENT	33,893	15,215	34,035	29,978	21
SUBMARINE SURVEILLANCE EQUIPMENT	8,547	31,138	22,233	26,778	21
OTHER SHIPBOARD ELECTRONIC EQUIPMENT	207,403	361,105	350,184	344,226	21
TRAINING EQUIPMENT	6,014	19,826	25,439	8,977	22
AVIATION ELECTRONIC EQUIPMENT	69,520	34,746	98,588	68,450	23
OTHER SHORE ELECTRONIC EQUIPMENT (COMM & CONTROL)	24,973	27,543	51,783	61,418	24
OTHER SHORE ELECTRONIC EQUIPMENT (MISCELLANEOUS)	71,990	60,831	68,391	71,181	24
SHIPBOARD COMMUNICATIONS	25,974	41,480	155,759	186,084	25
SUBMARINE COMMUNICATIONS	15,276	7,892	22,664	33,664	26
SATELLITE COMMUNICATIONS	108,588	129,742	204,166	172,638	26
SHORE COMMUNICATIONS	13,104	17,496	53,551	40,892	27

CRYPTOGRAPHIC EQUIPMENT	96,865	136,491	136,098	142,847	27
CRYPTOLOGIC EQUIPMENT	3,859	1,096	5,919	7,760	28
OTHER ELECTRONIC SUPPORT	3,503	3,857	8,440	8,482	29
DRUG INTERDUCTION SUPPORT	12,102	1,033	0	0	N/A

TOTAL BUDGET PLAN \$1,466,996 1,771,837 \$2,443,582 \$2,265,249

BUDGET ACTIVITY 2: COMMUNICATIONS AND ELECTRONIC EQUIPMENT

	(\$ In Thousands)
FY 1993 Estimate	\$2,265,249
FY 1992 Estimate	\$2,443,582
FY 1991 Estimate	\$1,771,837
FY 1990 Actual	\$1,466,996

Purpose and Scope of Work

Budget Activity 2 programs include the procurement and installation of shipboard shore communications and electronic equipment for the Active Fleet and training activities. Improved shipboard surface and air search radars are designed to enhance the military capability of combatant ships. Anti-Submarine Warfare Electronics equipment will furnish surface ships, submarines and special shore activities with equipment used for detection, tracking localization and classification of submarines. Special sonars are procured for employment in Fleet Ballistic Missile submarines. This budget activity also supports the procurement of equipment which will provide the Fleet with the capability of deceiving, intercepting, and analyzing airborne, electromagnetic and underwater radiation for the purpose of executing an effective surveillance and intelligence collection capability. Also procured in this budget activity is equipment required to support drug interdiction efforts.

Justification of Funds

Ship Radars (P-1 Line Items 48-53)

	(\$ In Thousands)
FY 1992	\$84,664
FY 1993	\$86,271

These Ship Radar procurements provide the active fleet with detection, tracking and identification equipment to meet the challenge of high speed attack capabilities of low-flyers, anti-ship missiles and modern aircraft. Specific radars and radar equipment improvements to be procured include the AN/SPS-40 radar system improvements which are designed to increase detection capability in hostile, cluttered, or low-flyer threat environments through improved system availability and automation techniques (FY 1992 \$21.8 million; FY 1993 \$18.6 million); the AN/SPS-48 availability and automation target position radar, a three-coordinate air search radar which has a primary function of providing target position data to a weapon system (FY 1992 \$20.4 million; FY 1993 \$11.8 million); the AN/SPS-49 radar, a narrow beamed, very long-range two dimensional, air search radar (FY 1992 \$3.2 million; FY 1993

\$23.2 million); the Integrated Automatic Detection and Tracking System (AN/SYS-()) which provides the capability to correlate contact data from up to three radars, determine target tracks, and provide a single target output to the ship's command and decision system automatically (FY 1992 \$8.1 million; FY 1993 \$5.3 million) and the MK-23 Target Acquisition System, a rapid reaction, fully automatic, electronic counter-counter-measure capable radar system developed as the target acquisition system for the Improved Point Defense Surface Missile System (FY 1992 \$21.1 million; FY 1993 \$19.7 million). This request also includes funding for procurement of various radar support items (FY 1992 \$10.1 million; FY 1993 \$7.6 million).

Ship Sonars (Surface Ships) (P-1 Line Items 54, 55, and 57)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$349,470</u>	<u>\$197,904</u>

Funds requested for Surface Ship Sonars include \$21.9 million in FY 1992 and \$19.6 million in FY 1993 for procurement of AN/SQS-26/53/53A sonar improvements. \$315.3 million in FY 1992 and \$165.5 million in FY 1993 provides for procurement and installation of the AN/SQQ-89 Surface ASW Combat System. In FY 1992, equipment will be budgeted to complete AN/SQO-89 upgrades for seven ships. In FY 1993, equipment is budgeted to complete two ships. \$12.2 million budgeted in FY 1992; and the \$12.8 million budgeted in FY 1993 provide for the procurement of emergency replacement windows and domes for the AN/SQS-26/53, AN/SQO-23, AN/SQO-38 sonar systems.

Ship Sonars (Submarines) (P-1 Line Items 56 and 60)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$168,040</u>	<u>\$184,986</u>

These funds provide for continued procurement and installation of AN/BQQ-5 modification kits required to upgrade previously procured and installed AN/BQQ-5 systems onboard SSN-637 and SSN-688 class submarines and maintenance trainers (FY 1992 \$165.8 million; FY 1993 \$182.6 million). These funds also provide for procurement of AN/BQR-23 Improved Processors and Memory, AN/BQR-15 array modification shipalts, AN/BQQ-9 systems and various other alterations for installation on SSBN class submarines (FY 1992 \$2.2 million; FY 1993 \$2.4 million).

Ship Sonars (General Support) (P-1 Line Items 58 and 59)

(\$ In Thousands)		
	FY 1992	FY 1993
	<u>\$ 45,455</u>	<u>\$ 44,403</u>

These funds procure upgrade equipment for the Transducer Repair Facilities, including Towed Line Array (TLA) plant equipment for the TB-16, AN/SQS-18A(V)1, and engineering changes for the AN/BQS-14 including the upgrade of the Forward Look portion of this sonar, and AN/BQS-15 (FY 1992 \$15.7 million; FY 1993 \$12.1 million). This request also includes resources to continue procurement of TR-317 transducers for the AN/BQS-11/12/13 and AN/BQQ-5 sonars for use on SSN-637 and SSN-688 class submarines; new TR-313 transducers for the AN/SQS-26 Sonar; and Electronic Scanning Switches required to support replacement of unreliable mechanical switches with electronic switches on both surface ships and submarines (FY 1992 \$29.7 million; FY 1993 \$32.3 million).

Anti-Submarine Warfare Electronics (Surface Ships) (P-1 Line Items 62 and 67-69)

(\$ In Thousands)		
	FY 1992	FY 1993
	<u>\$ 27,882</u>	<u>\$ 47,824</u>

This funding provides for the procurement and support of major ASW electronics systems for installation on deploying ships and those in the Naval Reserve Force. This request includes procurement of AN/SLQ-25 (NIXIE) engineering field change kits in FY 1992 and FY 1993 (FY 1992 \$27.9 million; FY 1993 \$47.8 million);

Anti-Submarine Warfare Electronics (Submarine) (P-1 Line Items 61, 63 and 64)

(\$ In Thousands)		
	FY 1992	FY 1993
	<u>\$211,873</u>	<u>\$167,185</u>

The request includes \$19.4 million in FY 1992 and \$23.9 million in FY 1993 for Submarine Acoustic Warfare Systems (SAWS) which will provide an enhanced survival capability for submarines to use against enemy torpedoes and a means to reduce the effectiveness of enemy sensors. These funds also provide for procurement of AN/FLR-14/BQR-15 Interface Engineering Changes, procurement of the Acoustic Device Countermeasure (ADC) MK-1 and MK-2 NAE Beacons (MK-3), AN/BQH-7 engineering changes and expendable probes, AN/VRL-9/12 engineering changes and the Countermeasure Set Acoustic (CSA)

MK-2 Mod 0 for SSBNs and CSA MK Mod 1 for SSN-637 class submarines, AIR display engineering changes, ADC MK-3, associated SHIPALTS/ECPSS and production support. \$41.1 million in FY 1992 is budgeted for an AN/BSY-1 software maintenance facility, compiler, organic repair, facility and team trainer in addition to \$151.2 million for an AN/BSY-2 software support facility. In FY 1993 \$32.2 million is budgeted for AN/BSY-1 module screening and repair activity, organic repair depot, module redesign, and other support, as well as, \$110.8 million for an AN/BSY-2 team trainer, maintenance trainer augmentation hardware, module screening and repair activity, intermediate maintenance activity, and test program sets. In addition, \$.2 million in FY 1992 and in FY 1993 are requested for the Acoustic Communications system, a multi-phase program which provides improved tactical acoustic communications systems for the three primary Anti-Submarine Warfare platforms (aircraft, surface ships and submarines).

Anti-Submarine Warfare Electronics (Aviation) (P-1 Line Items 71 and 72)

(\$ In Thousands)	
FY 1992	FY 1993
\$40,695	\$25,669

These funds will procure reliability and operability improvements to tactical ADP equipment and will provide for continued production of UYQ-21 displays in FY 1990 and FY 1991 as well as continued procurement of improvements to the Acoustic Analysis subsystem and UYQ-21 displays. All of these subsystems and displays are components of the Carrier ASW Module of the Carrier Combat Direction System (FY 1992 \$9.9 million; FY 1993 \$5.5 million). The request also includes resources to support procurement of various equipment which support the ASW Operations Center (ASWOCs) which is the land based terminal for ASW area commanders in the overall Navy Command Control System (NCCS). (FY 1992 \$30.8 million; FY 1993 \$20.2 million).

Anti-Submarine Warfare Electronics (Surveillance) (P-1 Line Items 65, 66 and 70)

(\$ In Thousands)	
FY 1992	FY 1993
\$113,204	<u>\$137,552</u>

These funds will support the Sound Surveillance System (SOSUS), the Pixed Distributed System (PDS), and Surveillance Towed Array Sensor (SURTASS) programs. Specific items to be procured in SOSUS include ship improvement equipment, cable replacement, engineering, trainer hardware and configuration changes, shore electronics backfit, fiberoptic array systems and surveillance director system, special projects and associated equipment installation. (FY 1992 \$78.2 million; FY 1993

\$89.1 million). Funds in FY 1992 and FY 1993 also provide for the procurement of Acoustic Measurement Buoys in support of the PDS program (\$4.0 million in FY 1992 and \$.8 million in FY 1993). The funds requested in FY 1992 and FY 1993 for SURTASS will procure shore electronic units, field change/modifications, block upgrade equipment for shipboard and land base application and association installation of equipment. (\$31.1 million in FY 1992; \$47.7 million in FY 1993).

Electronic Warfare Equipment (Surveillance) (P-1 Line Items 73 - 79)

(\$ In Thousands)	
FY 1992	FY 1993
\$165,049	\$170,080

The FY 1992 and FY 1993 Electronic Warfare Equipment procurement provides the Fleet with systems that have the capability of detecting overt electromagnetic emissions through passive means. Specific systems to be procured include the AN/SLQ-32, a family of modular shipborne electronic warfare equipments to be installed in most combatants and auxiliaries in the Surface Navy. \$116.4 million in FY 1992 will procure four AN/SLQ-32(V)3 systems and Electronic Warfare Improvements as follows: Direction Finding (DF) Accuracy Improvement (Band 1), Electronic Support Measures (ESM) Sensitivity Improvements (Band 1 and 3), Band 3 ESM HAT, Antenna Enclosure Improvements, and Electromagnetic Interference (EMI) Improvements. \$113.0 million in FY 1993 will procure four AN/SLQ-32(V)3 systems, and EW Improvements. The Integrated Cover and Deception System (ICADS) provides electronic equipment for coordinated cover and deception capabilities to the Battle Group Commanders. \$5.9 million budgeted in FY 1992 and \$2.2 million budgeted in FY 1993 are for the modernization of the AN/SSQ-74 and AN/SLQ-33 systems, for the procurement of an AN/SLQ-33 cased body and the final procurement of AN/ULQ-13 Signal Enhancement Sources. The Electronic Warfare Support Equipment procures equipment and devices to (1) maintain the integrity of USN C3 networks and targeting systems by preventing adversary access, (2) assess the performance and stability of USN communications links/networks, radars and electronic countermeasures for airborne and shipboard electromagnetic systems, and (3) simulate hostile electronic countermeasures and weapons targeting functions. The \$9.9 million budgeted in both FY 1992 and FY 1993 procure reprogrammable terminals, processors and printers, replacement equipment for permanently manual Ship Signal Exploitation Spares (SSES) and associated installation and production support efforts. \$21.4 million budgeted in FY 1992 and \$29.4 million in FY 1993 are for procurement of Chaff Buoys, Active Electronic Buoys (AEB), and DLF-1/2 Buoys. \$8.1 million budgeted in FY 1992 and \$15.5 million budgeted in FY 1993 provide for the procurement of WLR-8 field change kits. Additionally, in FY 1992 \$3.4 million is budgeted for modification kits.

Reconnaissance Equipment (P-1 Line Items 80-83)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$ 34,035</u>	<u>\$ 29,978</u>

This funding will provide the tactical capability to detect, locate and identify hostile targets at long range and input this information into the ship's Tactical Data Systems. \$10.1 million budgeted in FY 1992 and \$13.3 million in 1993 are for the procurement of Combat Direction Pending Systems. \$18.3 million budgeted in FY 1992 and \$11.0 million budgeted in FY 1993 provide for procurement of equipment to update the intelligence centers in Aircraft Carriers, other Ships and training centers. \$5.6 million budgeted in FY 1992 and \$5.7 million budgeted in FY 1993 provide for the procurement of Direction Finder and signal acquisition modernization on the OUTBOARD system, installation efforts and associated production support.

Submarine Surveillance Equipment (P-1 Line Items 84-87)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$22,233</u>	<u>\$26,778</u>

The funding requested provides for special equipment in support of submarine surveillance operations. \$10.4 million budgeted in FY 1992 and \$19.8 million budgeted in FY 1993 are for procurement of modifications to the existing AN/WLQ-4(V) and Mini-N-Suites signal intelligence augmentation modification kits, both installed on the SSN-637 Class submarines. \$2.2 million in FY 1992 and \$2.3 million in FY 1993 are for support of the AN/WLQ-4 intermediate maintenance activity. \$4.7 million budgeted in FY 1992 and \$4.7 million in FY 1993 are for the procurement of unique equipments that are maintained in limited quantities at Submarine Surveillance Equipment Program Support Facilities for use onboard nuclear attack submarines. In FY 1992, \$4.9 million is budgeted for AN/BLD-1 systems.

Other Shipboard Electronic Equipment (P-1 Line Items 88-96)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$350,184</u>	<u>\$344,226</u>

\$56.7 million budgeted in FY 1992 and \$56.1 million budgeted in FY 1993 provides for the procurement of improvements to the Navy Tactical Data System (NTDS) which permits major warships rapid integration of ship sensor information, analysis and display of tactical information and designation of weapon systems to force threats. \$173.4 million budgeted in FY 1992 and \$162.0 million budgeted in FY 1993 are for electronic equipment for the TRIDENT Training Facility (TRITRAPHAC), in addition to upgrading the AN/BQQ-6 sonars to the AN/BQQ-5E configuration and to add Compact VLF receivers to the submarine radio rooms. The request also includes resources to support procurement of equipment for the Armed Forces Radio and Television Service (AFRTS) which operates radio and television outlets for the shipboard information training and entertainment of United States servicemen and their dependents at sea or shore (FY 1992 \$7.8 million; FY 1993 for \$7.1 million). \$22.1 million budgeted in FY 1992 and \$22.5 million budgeted in FY 1993 are for procurement of mine hunting sonars for Minesweeping Boats (MSBs), route survey sonars for Ocean going Minesweepers (MSOs), and precise navigation equipment. \$17.0 million budgeted in FY 1992 and \$13.8 million budgeted in FY 1993 provide for procurement of shipboard and manpack receiver equipment for the NAVSTAR Global Positioning System (GPS), a joint service program which will provide a continuous, world-wide three-dimensional positioning/navigation capacity to the operational forces. \$2.2 million budgeted in FY 1992 and \$1.3 million budgeted in FY 1993 are for procurement of replacement Data Terminal Sets (DTS) for the High Frequency Link - 11 System. \$31.6 million budgeted in FY 1992 and \$41.8 million budgeted in FY 1993 are for procurement of Tactical Flag Command Center (TPCC) systems which support the tactical commander by receiving and displaying information on the current tactical situation. These funds also provide for associated installation and production support. \$39.4 million in FY 1992 and \$39.6 million in FY 1993 will procure Link 16 terminals that will provide the Navy with a more secure, higher data rate system for tactical data and voice communications.

Training Equipment (P-1 Line Items 97-99)

(\$ In Thousands)		
FY 1992	FY 1993	
<u>\$25,439</u>	<u>\$8,977</u>	

\$25.4 million budgeted in FY 1992 and \$9.0 million budgeted in FY 1993 provide for procurement of equipment to satisfy initial training requirements developed through the Navy Training Plan process. This equipment will give the Navy the capability to train officer, operator and maintenance personnel on new, significantly modified equipment for which no Navy training is currently available. It also satisfies requirements to expand the Navy training capability on existing equipment to meet heavier needs for trained personnel in the fleet.

Aviation Electronic Equipment (P-1 Line Items 100-108)

(\$ In Thousands)		
FY 1992	FY 1993	FY 1993
\$98,588		\$68,450

The FY 1992 and FY 1993 request for Aviation Electronic Equipment provides for procurement of electronic equipment to support Naval and Marine aviation shore activities, shipboard aircraft control equipment and secure identification systems. The Marine Air Traffic Control and Landing System (MATCALS) will provide a fully automatic air traffic control and landing system. \$4.2 million budgeted in FY 1992 and \$3.8 million budgeted in FY 1993 are for the procurement of various Marine squadron support equipment. The Shipboard Air Traffic Control (SATC) program will improve air traffic control operations in the Fleet. SATC funding of \$11.3 million in FY 1992 and \$8.5 million budgeted in FY 1993 for procurement of three Amphibious Air Traffic Control (AATC) Direct Altitude Identify Readout (DAIR) systems for LPDs and LHAs. Two Amphibious Air Traffic Control field change kits will be procured in FY 1993 to backfit existing Carrier Air Traffic Control Center (CATCC) systems to provide commonality. The \$37.5 million budgeted in FY 1992 and \$15.7 million budgeted in FY 1993 in the Automatic Carrier Landing System are required for procurement of five AN/SPN-46(V) systems to replace aging AN/SPN-42A Automatic Carrier Landing Systems and five AN/SPN-35 solid state field change kits. \$2.2 million budgeted in FY 1992 and \$2.0 million budgeted in FY 1993 are for procurement of Tactical Air Navigation (TACAN) equipment for Navy ships. \$13.8 million budgeted in FY 1992 and \$8.8 million budgeted in FY 1993 in the Identification Systems line are for procurement of various equipment to improve the MK XII Identification Friend or Foe air traffic control radar system used as a secure identification system on all major combatant ships, selected auxiliaries, patrol craft and selected Coast Guard ships. Major items planned for procurement include 81 AN/UJM MK XII test sets and various AN/UPX-29 modifications to improve range coverage and processor capabilities. The Air Station Support Equipment program addresses air traffic control requirements and enhances flight safety at Navy and Marine Corps Air Stations. The budget request includes \$25.3 million in FY 1992 and \$16.4 million in FY 1993 to procure a wide array of equipments and systems for the Navy's shore-based air traffic control air stations and aviation facilities. Specific systems include the Integrated Voice Communications Switching System (IVCCS) to replace 20-year old mechanical switching equipment with more advanced and capable systems; the Visual Communications Control Systems (VCOM), a safety of flight of systems; the Television Microwave Links (TML) to convey air traffic control radar signals to remote sites in lieu of procuring separate radars for those sites; and the Range Aerospace Surveillance System (RASS) to improve air traffic control at NAS Fallon. \$2 million budgeted in FY 1992 and \$2 million budgeted in FY 1993 in the Microwave Landing System line are to complete upgrades to extend the life of the AN/PPN-63 Precision Approach Radar to keep it operational until replaced by the Microwave Landing

System (MLS). \$4.1 million in FY 1992 and \$12.9 million budgeted in FY 1993 are for procurement of Fleet Area Control and Surveillance Facilities (PACSFAC) communication modernizations for NAS Whidbey Island and other sites; FY 1993 funds will begin the conversion to the Advanced Combat Direction System and will procure a PACSFAC scheduling system to interface with the Military Airspace Management System.

Other Shore Electronic Equipment (Command and Control) (P-1 Line Items 109-113)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$51,783</u>	<u>\$61,418</u>

The funds budgeted for Tactical Receive Equipment (TADIX-B), \$14.4 million in FY 1992 and \$9.6 million in FY 1993, will provide designated platforms with the capability to receive near real-time contact data reports via a UHF Communications Link. FY 1992 and FY 1993 funds will also procure electronic equipment for replacement of obsolete equipment of the Navy Space Surveillance System. This system provides unaltered real-time detection of non-radiating satellites and other objects which pass through multistatic continuous wave radar beams (FY 1992 \$2.9 million and FY 1993 \$1.1 million). Additional funding includes resources to support the Space System Processing System. This includes procurement of special computer hardware and software necessary to improve information processing and generation of highly classified reports for use by Operational Navy Command (FY 1993 \$4.6 million). Resources are also requested to procure correlation upgrade equipment, replacement equipment, and associated installation efforts for the Navy Command and Control System (NCCS) Ashore program which provides for the coordination and integration of shore based command centers and their respective systems. (\$34.4 million in FY 1992 and \$47.1 million in FY 1993).

Other Shore Electronic Equipment (Miscellaneous) (P-1 Line Items 114-120)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$68,391</u>	<u>\$71,181</u>

Funding of \$2.8 million in FY 1992 and \$2.9 million in FY 1993 provides for continued production support efforts required to support final delivery of the Relocatable Over the Horizon Radars (ROTHR) which were procured in FY 1988 and FY 1989. The request also includes \$7.7 million budgeted in FY 1992 and \$7.7 million budgeted in FY 1993 for Radiation Detection Indication and Computation Equipment Program (RADIAC) to detect and measure nuclear and ionizing radiation and to convert these measurements into meaningful terms so that Navy personnel can adequately control personnel exposure

to those radiations. Funds in the amount of \$21.8 million in FY 1992 and \$23.6 million in FY 1993 are for the procurement of General Purpose Electronic Test Equipment (GPETE) for initial outfitting of new or modified Fleet and shore electronic equipment. Funding of \$4.9 million in FY 1992 and \$5.0 million in FY 1993 is for procurement of equipment required for the Integrated Combat System Test Facility (ICSTF), located at San Diego, California, the only permanent Navy Test facility for integrated shipboard combat system certification and for continuation of engineering for modification of combat systems in existing ships. Funding of \$9.1 million budgeted in FY 1992 and \$8.4 million in FY 1993 is for procurement of a new generation of signal generators and oscillator calibrators capable of calibrating up to 18 GHz to support test equipment for PFG-7 and DD-963 class ships and TRIDENT submarines and up to 40 GHz to support test equipment for SSN-637 and SSN-688 class submarines. Funding of \$11.8 million in FY 1992 and \$12.2 million in FY 1993 is for procurement of emergency field change kits and hardware devices to solve Electromagnetic Interference (EMI) problems in electronic systems and equipments throughout the operating forces. The FY 1992 and FY 1993 requests also include resources to support procurement of replacements for deteriorating and obsolete management equipment, for facilitization of the AN/UTK-43 and 44 depots and for procurement of AN/UYS-1 and 2 hardware (FY 1992 \$10.3 million; FY 1993 \$11.3 million).

Shipboard Communications Equipment (P-1 Line Items 121-127)

(\$ In Thousands)		
FY 1992	FY 1993	
<u>\$155,759</u>	<u>\$186,084</u>	

Funding of \$65.0 million in FY 1992 and \$86.7 million in FY 1993 is for procurement of replacement High Frequency (HF) equipment to update the capability aboard ships. Funds in the amount of \$22.2 million in FY 1992 and \$23.4 million in FY 1993 are for procurement of portable specialized radios to support the unique air, sea and land environment of the Explosive Ordnance Disposal (EOD) and the portable contingency communications package missions. Funding of \$44.0 million in FY 1992 and \$43.2 million in FY 1993 provides for procurement of communication systems to automate message processing and distribution functions aboard ship. Funding of \$23.1 million in FY 1992 and \$29.3 million in FY 1993 provides for completion of communications suites aboard ship. Funding of \$1.4 million in FY 1992 and \$2.5 million in FY 1993 provides for the procurement of flight deck communications systems.

Submarine Communications Equipment (P-1 Line Items 128-130)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$22,664</u>	<u>\$33,664</u>

These resources will procure communications equipment for Command and Control of the Fleet Ballistic Missile (FBM) and Attack Submarine Forces. Funds in the amount of \$7.4 million in FY 1992 and \$4.1 million in FY 1993 are for procurement of shore Low Frequency/Very Low Frequency (LF/VLF) communications modernization hardware, upgrades and high efficiency amplifiers and associated installation. Funding of \$2.6 million in FY 1992 and \$21.8 million in FY 1993 provide for procurement of the Integrated Submarine Automated Broadcast Processing System II and the Automated Emergency Action Message Processing and Dissemination System (AEPDS). These requirements are part of the VERDIN VLF communications system. Funding of \$12.6 million in FY 1992 and \$7.7 million in FY 1993 provides for procurement of submarine communications equipment consisting of antenna modifications, mast assemblies and associated installation efforts.

Satellite Communications Equipment (P-1 Line Items 131-132)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$204,166</u>	<u>\$172,638</u>

FY 1992 and FY 1993 Satellite Communications procurements provide for adequate command, control and communications among shore stations, ships, submarines and selected aircraft through the Ultra High Frequency (UHF), Super High Frequency (SHF), and Extremely High Frequency (EHF) bands. Funding of \$204.2 million in FY 1992 and \$172.6 million in FY 1993 provides for procurement of Demand Assigned Multiple Access (DAMA) systems; Submarine Satellite Communications (SATCOM) equipment; Battle Group SATCOM terminals consisting primarily of Officer in Tactical Command Information Exchange Subsystem (OTCIXS) and Tactical Data Information Exchange Subsystem (TADIXS); support equipment for the SHF shipboard terminals; and EHF jam resistant low probability of intercept connectivity terminals, replacement coder equipment to make Navy ships interoperable with Army and Air Force Secure Voice Systems.

Shore Communications Equipment (P-1 Line Items 133-141)

(\$ In Thousands)

FY 1992	FY 1993
\$53,551	\$40,892

Funding of \$2.4 million budgeted in FY 1992 and \$2.4 million in FY 1993 provides for the procurement of the Joint Service Modernization of the Joint Chiefs of Staff (JCS) Communications equipment. Funding of \$7 million in FY 1992 and FY 1993 is for procurement of emergency generators and Uninterruptable Power Systems for installation at various Naval Communication activities worldwide. Funding of \$28.7 million in FY 1992 and \$15.7 million in FY 1993 provides for procurement of program upgrades and replacement High Frequency antennas, transmitters and receivers at various shore sites. Funding of \$11.6 million in FY 1992 and \$8.7 million in FY 1993 provides for procurement of various communications equipment which supports the Worldwide Military Command and Control System (WMCCS). \$6.0 million in FY 1992 and \$8.7 million in FY 1993 provide for the procurement of Navy standard teletypes as replacements for the 30 year old Model 28 teletypes at shore activities, other shore communication automation upgrade equipment. Funding of \$1.4 million in FY 1992 and \$.6 million in FY 1993 is for procurement of various other low dollar value items to support numerous Naval Shore Telecommunications Programs.

Cryptographic Equipment (P-1 Line Items 142-158)

(\$ In Thousands)

FY 1992	FY 1993
\$136,098	\$142,847

The FY 1992 and FY 1993 request will procure sufficient equipment to provide secure voice equipment to provide secure voice protection to an additional share of Navy's identified critical narrowband/wideband secure voice requirements. Funding of \$68.0 million in FY 1992 and \$77.3 million in FY 1993 provides for procurement of secure voice systems and associated installation. This includes procurement of STU-III equipments which will provide subscriber expansion and improvement over the secure voice capability presently provided by AUTOSEVOCOM I. New features include digital transmission, end-to-end secure voice with conferencing, a better voice quality, and lower bit rate. Also being procured are Advance Narrowband Digital Voice Terminals (ANDVTs) which satisfy requirements for secure narrowband communication which cannot be met by existing equipment. Funding of \$55.6 million in FY 1992 and \$46.6 million in FY 1993 provides for procurement of Secure Data Systems and associated installation efforts. This includes procurement of the TSEC/RG-84, a general purpose key generator capable of

satisfying a wide variety of requirements and which is designed to serve as the future standard link encryption device for low to medium speed record and/or data systems, and the KI-III and KIK III equipment which provides multilevel security capability to support command and control systems. \$9.6 million in FY 1992 and \$15.8 million in FY 1993 provide for the procurement of Navy Key Distribution System (NKDS) equipment required to change the form factor of the cryptographic variables to an electronic form, for procurement of the Data Transfer Device which will replace the KYX-13 and KYX-15 for common file devices and for procurement of other Secure Data devices. Funding of \$4 million in FY 1992 and in FY 1993 is for procurement of the TEMPEST test equipment. Funding of \$2.4 million in FY 1992 and \$2.7 million in FY 1993 provides for the procurement of various low dollar value items that are needed to meet special Communication Security operated requirements.

Cryptologic Equipment (P-1 Line Items 159-163)

(\$ In Thousands)

	FY 1992	FY 1993
	\$5,919	\$7,760

These resources provide equipment to support Tactical Cryptologic Missions and functions. Funding of \$2.6 million in FY 1992 and \$3.1 million in FY 1993 continues procurement of AN/UYA-7 Replacement Suites which allow shipboard and Navy shore sites to be interoperable with Air Force Communications networks that will pass Airborne derived reconnaissance via HF. Funding of \$2.0 million in FY 1992 and \$1.7 million in FY 1993 continues procurement of various low cost replacement and cryptologic training equipments for use at U.S. Navy shore sites, training commands, and aboard U.S. Navy combatants. Funding of \$.7 million in FY 1992 and \$1.6 million in FY 1993 continues procurement of cryptologic systems for use at U.S. Navy ashore reserve training sites to insure that cryptologic technicians maintain proficiency in various languages and manual Morse. Funding of \$.8 million in FY 1993 continues procurement of cryptologic systems to be installed at various worldwide shore sites which are used in conjunction with afloat cryptologic systems to ensure that accurate tactical data bases are maintained.

Other Electronic Support (P-1 Line Items 164-167)

This funding will procure critical repairable equipment: In support of planned maintenance schedules and corrective maintenance actions for the PFG (LO-MIX) and DD (Engineering Operation Cycle) class ships, dedicated test stations, industrial plant equipment, and test jigs and fixtures for selected depot rework facilities in support of new maintenance strategies for the PFG and DD (EOC) Class ships (FY 1992 \$8.4 million; and FY 1993 \$8.5 million).

(\$ In Thousands)

	FY 1992	FY 1993
	\$8,440	\$8,482

BUDGET ACTIVITY 3: AVIATION SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
(In Thousands)

Budget Plan
(Amounts for Procurement Actions Programmed)

	FY 1990 Actual	FY 1991 Estimate	FY 1992 Estimate	FY 1993 Estimate	Justification Page
Sonobuoys	\$158,919	\$160,000	\$77,531	\$146,751	31
Ammunition	169,797	0-	0-	0-	-
Airborne Expendable Countermeasures	36,073	38,912	65,033	55,039	32
Miscellaneous Ordnance and Support Weapons Range Support Equipment	49,952	24,495	43,603	53,625	32
Aircraft Launching and Recovery Equipment Aircraft Rearming Equipment Airborne Mine Countermeasures Equipment	69,632	52,854	59,800	54,426	33
LAMPS MK III Shipboard Equipment Other Aviation Support	15,673	7,988	1,004	4,591	34
Total Budget Plan	\$590,979	\$375,050	\$378,464	\$493,938	35

BUDGET ACTIVITY 3: AVIATION SUPPORT EQUIPMENT**(\$ in Thousands)**

FY 1993 Estimate	\$493,938
FY 1992 Estimate	\$378,464
FY 1991 Estimate	\$375,050
FY 1990 Estimate	\$590,979

Purpose and Scope of Work

Budget Activity 3 finances air launched anti-submarine warfare (ASW) sensors, general support equipment associated with aircraft and other aviation support which includes ground electronics equipment, aircraft launching and retrieving equipment, photographic equipment, reconnaissance and electronic warfare processing and analysis equipment and miscellaneous other categories. Beginning in FY 1991 financing for ordnance and air-launched expendable munitions has been transferred to the Weapons Procurement, Navy appropriation. Specific programs transferred include: General Purpose Bombs, Practice Bombs, 2.75 Inch Rockets, Aircraft Machine Gun Ammunition, and the Eigeye Chemical Weapon.

Justification of Funds**Sonobuoys (P-1 Line Item 169-174)****(\$ in Thousands)**

FY 1992	\$77,531
FY 1993	\$146,751

The FY 1992 and FY 1993 Sonobuoy procurement has been computed considering the number of ASW carrier air groups and shore based ASW patrol squadrons to be supported, actual and planned peace-time usage for these forces and the necessary training allowance requirements. User aircraft include the S-3A, P-3, SH-2D, and SH-3 series. Specific sonobuoys to be procured in FY 1992 and FY 1993 include: the AN/SSQ-62 (DICASS) Sonobuoy, an active directional sonobuoy, the AN/SSQ-36 Bathythermograph Sonobuoy, an air-dropped bathythermograph transmitting set that provides a vertical water temperature profile, the AN/SSQ-75 (ERAPS) sonobuoy, an active localization sensor to provide anti-submarine warfare forces the option to conduct active (small area) searches and rapid localization of submarines, and the AN/SSQ-77 (VLAD) Sonobuoy, a passive directional sonobuoy utilizing a line array of omni-directional hydrophones and a DIFAR element. The directional beam patterns are formed from the line array to discriminate against noise and the DIFAR enables determination of the bearing of detected sound. The FY 1993 request also includes funding to support procurement of Signal Underwater Sound (SUS) devices which are expendable, high energy acoustic sources (FY 1993 \$1.5 million). The MK-84 is a non-explosive, electro-acoustic device which is launched from aircraft and transmits acoustic tones after water entry. The MK-84 SUS is used for training and exercise signaling to submarines.

Airborne Expendable Countermeasures (P-1 Line Item No. 181)

	(\$ in Thousands)	
	FY 1992	FY 1993
	<u>\$65,033</u>	<u>\$55,039</u>

The Airborne Expendable Countermeasures line provides funding for procurement of electronic countermeasure self-protection devices for all Navy tactical aircraft, including air-launched chaff, infra-red (IR) flares, and expendable jammers. A major new item being procured in FY 1992 is the Generic Expendable Decoy (GEN-X), which enhances existing radio frequency countermeasures capabilities and complements present and future electronic warfare suites. Funds requested in FY 1993 will be used to continue procurement of the GEN-X and of the MJU-8A/B fixed-wing aircraft IR decoy flare. Various types of expendable chaff are also scheduled for procurement in FY 1992 and FY 1993 including RR-129 chaff, RR-144 chaff, RR-184 BOL chaff, RR-181 AIRBOC chaff, RR-179 Glass Rovings chaff, and RR-188 chaff.

Miscellaneous Ordnance and Support (P-1 Line Item Nos. 179, 180, 182-185)

	(\$ in Thousands)	
	FY 1992	FY 1993
	<u>\$43,603</u>	<u>\$53,625</u>

Budgeted procurements in this category include various ordnance and ordnance support items. Funding of \$18.4 million in FY 1992 and \$22.5 million in FY 1993 is for procurement cartridges used to eject air-launched weapons and of other cartridge-actuated devices. Funding of \$7.0 million is FY 1992 and \$6.5 million in FY 1992 is for rocket motors and catapults used for ejecting aircraft from disabled aircraft. Funding of \$8.1 million in FY 1992 and \$8.9 million in FY 1993 is for Jet-Assisted Take Off (JATO) rockets used to launch aircraft and targets and to propel sleds used in testing. \$6.5 million requested in FY 1992 and \$6.0 million in FY 1993 are to procure Marine Location Markers which are required for location of sonobuoys in anti-submarine operations and for other general applications. The remaining \$3.7 million in FY 1993 and \$9.7 million in FY 1993 are for procurement of Defense Nuclear Agency Material including nuclear trainers and trainer components, test and handling equipment, and modernization equipment.

Weapons Range Support Equipment (P-1 Line Item No. 186)

	(\$ in Thousands)
FY 1992	FY 1993
<u>\$ 59,800</u>	<u>\$54,425</u>

This line provides the resources to implement the Navy Fleet Training Range Instrumentation Program Plan. Procurements in FY 1992 include the following: (1) \$7.6 million for Aircrew Electronic Warfare Training Range systems at Pinecastle, FL, and Fallon, NV; (2) \$4.7 million for the procurement of System Replacement and Modernization equipment; (3) \$8.5 million for expansion of the Cherry Point Tactical Aircrew Combat Training System (TACTS) range and for procurement of nine TACTS Display and Debriefing Subsystems for four sites; (4) \$13.2 million for in-water instrumentation replacements for the Barking Sands Tactical Underwater Range (BARSTAR); (5) \$9.9 million for equipment replacements and upgrades of the Atlantic Fleet Weapons Training Facility (AFWTF) microwave systems; (6) \$3.3 million for Range Electronic Warfare Simulators (REWS) for the Pacific Missile Range Facility (PMRF); and (7) \$.8 million for procurement of Range Operation Control Systems replacements. In addition, \$11.8 million is required for production engineering, integrated logistics support (ILS) efforts, and equipment installation. Funds requested in FY 1993 will procure REWS for PMRF (\$2.2 million), Aircrew Electronic Warfare Training Range systems at Cherry Point, NC, Fallon, NV and Yuma, AZ (\$9.1 million), System Replacement and Modernization equipment (\$4.2 million), 24 remote TACTS systems for Fallon, NV (\$13.2 million), a Large Area Tracking Range System for the Southern California (SOCAL) range (\$7.8 million); and product improvements for the Mobile Sea Range, Anti-Submarine Warfare (\$4.0 million). In addition, \$13.9 million is required for production engineering, ILS efforts, and equipment installation.

Aircraft Launching and Recovery Equipment (P-1 Line Item Nos. 187 and 189)

	(\$ in Thousands)
FY 1992	FY 1993
<u>\$51,483</u>	<u>\$64,613</u>

Catapult, Arresting Gear, and Visual Landing Aids Support for the Navy's aircraft carriers and other air-capable ships, and the Marine Corps' Expeditionary Airfield (EAF) systems are funded under this program. Funding of \$46.6 million in FY 1992 and \$28.2 million in FY 1993 is for the

procurement of major catapult, arresting gear and visual landing aids equipment for aircraft carriers and other aircraft capable ships. Funding of \$4.8 million in FY 1992 and \$6.4 million in FY 1993 is for EAP support equipment to enhance maintainability, reliability and safety of flight operations, and to keep pace with advanced aircraft requirements by correcting known deficiencies and by modernizing EAP equipment.

Aircraft Rearming Equipment (P-1 Line Item No. 188)

(\$ in Thousands)	
FY 1992	FY 1993
<u>\$16,375</u>	<u>\$12,946</u>

The Aircraft Rearming Equipment program provides armament support equipment (ASE) and weapons support equipment (WSE) for use ashore and afloat to load and/or download air-launched weapons and to perform maintenance on aircraft-installed armament systems. WSE equipment is used to transport and to perform maintenance on weapons and explosive ordnance components. ASE and WSE are utilized to accomplish the improved rearming rate (IRR) of A-6, EA-6, F-4, F/A-18, and AV-8 aircraft. The use of this equipment permits the rapid weapons loading and reloading of strike aircraft with a minimum number of flight deck personnel.

Airborne Mine Countermeasures Equipment (P-1 Line Item 193)

(\$ in Thousands)	
FY 1992	FY 1993
<u>\$ 1,004</u>	<u>\$ 4,591</u>

This program funds various mine countermeasures equipment operated by RH/CH-53D/MH-53E helicopters. Funds requested in FY 1992 and FY 1993 will procure airborne mine countermeasures (AMCM) hardware modifications and a MK-105 Magnetic Minesweeping system upgrade.

LAMPS MK III Shipboard Equipment (P-1 Line Item 194)

(\$ in Thousands)	
FY 1992	FY 1993
<u>\$ 8,638</u>	<u>\$46,974</u>

Equipment to be installed in existing ships being backfitted with the LAMPS MK III weapon system is procured in this line item. Funds requested in FY 1992 and FY 1993 are to procure one and five AN/SRQ-4 units, respectively, shipboard terminal data transmission devices. Other requirements include a system integration efforts, \$2.8 million in FY 1992 and \$2.2 million in FY 1993, various production engineering and integration logistics support items, and equipment installation.

Other Aviation Support (P-1 Line Items 190-192, 195-197)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$54,997</u>	<u>\$54,973</u>

Funds budgeted include the procurement of Meteorological equipment, Aviation Life Support equipment, Meteorological equipment to be procured in both FY 1990 and FY 1991 provides a cost effective means to receive, process, and disseminate meteorological/oceanographical data and on-site, real time geographical capability to determine environmental factors currently affecting fleet and shore activities. Specifically, the equipment to be procured includes the AN/SM0-11 Meteorological Data Satellite Receiver-Recorder and the Tactical Environmental Support System (TESS)/Shipboard Meteorological Oceanographic Observing Systems (SMOOS) and the shorebased TESS, the Next Generation Radar (NEXRAD) system and the Automated Surface Observing System (ASOS) (\$33.0 million in FY 1992; \$29.9 million in FY 1993). The \$6.4 million requested in FY 1992 and the \$12.1 million in FY 1993 for Aviation Life Support Equipment will finance procurement of Chemical/Biological Aircrew Protective Assemblies, PRC-112 Aircrew Survival Radios and related support equipment, integrated logistics support and production support. The \$1.8 million requested in FY 1992 and the \$1.6 million requested in FY 1993 for the Reconnaissance Electronic Warfare, Special Operations and Naval Intelligence (REASON) program will procure replacement film processors and new digital image processors that utilize state-of-the-art reconnaissance sensors coming into the Navy inventory. The Other Photographic Equipment line provides imaging and laboratory equipment in support of 62 fleet and 205 shore-based sites. The \$1.4 million requested in FY 1992 and \$1.0 million in FY 1993 will procure printing and processing equipment (mini-labs), black and white paper automatic processors, and other commercial, off-the-shelf investment equipment. The Stock Surveillance equipment line provides funds for procurement of equipment needed to monitor, measure, and assess the condition of current Navy stocks of air-launched missiles and air-launched ordnance and ammunition (\$2.3 million in FY 1992 and \$2.0 million in FY 1993). Seventy-five percent of the funds support missile inventory quality evaluation (surveillance) efforts and twenty-five percent support air-launched ordnance evaluation, including bombs, rockets, and cartridge actuated devices. Material readiness factors such as reliability and serviceability are measured by this effort. The Other Aviation Support Equipment line funds miscellaneous programs (\$10.2 million in FY 1992 and \$8.4 million in FY 1993). Included are funds for procurement of fleet telemetry equipment which is used to receive, record and analyze missile telemetry performance data providing information to evaluate training/test exercises; collateral equipment in support of the Naval Air Systems Command and its field activities; a computerized Tactical Aircraft Mission Planning System (TAMPS) planned for installation in aviation-capable ships, air stations, aviation training sites, support facilities and deployed aviation units. Finally, this line provides capital maintenance of the government-owned, contractor-operated Sonobuoy test facility at St. Croix, U.S. Virgin Islands and deployed aviation units.

BUDGET ACTIVITY 4: ORDNANCE SUPPORT EQUIPMENT
 SUMMARY OF BUDGET PLAN
 (\$ In Thousands)

BUDGET PLAN
 (Amounts for Procurement Actions Programmed)

	FY 1990 Actual	FY 1991 Estimate	FY 1992 Estimate	FY 1993 Estimate	Justification Page
SHIP GUN AMMUNITION	\$132,994	\$ -0-	\$ -0-	-0-	N/A
SHIP GUN SYSTEMS EQUIPMENT	18,374	13,107	14,749	15,846	37
SHIP MISSILE SYSTEMS EQUIPMENT	275,467	230,486	277,404	470,970	38
PBM SUPPORT EQUIPMENT	52,152	50,170	84,024	56,781	39
ASV SUPPORT EQUIPMENT	70,116	92,544	101,810	126,323	39
OTHER ORDNANCE SUPPORT EQUIPMENT	25,515	21,257	27,084	31,069	40
OTHER EXPENDABLE ORDNANCE	121,206	74,212	44,686	62,322	40
TOTAL BUDGET PLAN	\$695,824	\$481,776	\$549,757	\$763,311	

BUDGET ACTIVITY 4: ORDNANCE SUPPORT EQUIPMENT

	(\$ In Thousands)
FY 1993 Estimate	\$ 763,311
FY 1992 Estimate	\$ 549,757
FY 1991 Estimate	\$ 481,776
FY 1990 Actual	\$ 695,824

Purpose and Scope of Work

Funds provided in this budget activity are for Ship Gun and Ship Missile Systems equipment, Fleet Ballistic Missile and Anti-Submarine Warfare Support equipment, and Other Ordnance Support equipment, and Other Expendable Ordnance. Beginning in FY 1991, all ship gun ammunition and other expendable ammunition programs have been transferred to Weapons Procurement, Navy or Procurement Defense Agencies (for SOP ordnance).

Justification of Funds

Ship Gun System Equipment (P-1 Line Items 205)

	(\$ In Thousands)
FY 1992	\$14,749
FY 1993	\$15,846

The FY 1992 request of \$14.7 million and the FY 1993 request for \$15.8 million is to procure Gun Fire Control equipment. The funds requested for Gun Fire Control equipment are for the procurement of equipment and ordnance alterations to improve reliability and maintainability of the MK-86 and MK-68/56 surface Gun Fire Control Systems installed on all surface combatants fitted with 5" naval guns.

Ship Missile Systems Equipment (P-1 Line Items 206-215)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$277,404</u>	<u>\$470,970</u>

The FY 1992 request of \$277.4 million and the FY 1993 request of \$471.0 million are for Ship Missile Systems (SMS) programs. The MK-92 Fire Control System request of \$12.5 million in FY 1992 and \$14.2 million in FY 1993 will provide for improved readiness of the MK-92 system. The FY 1992 and FY 1993 request of \$29.0 million and \$39.4 million, respectively, for Harpoon Support equipment will be used to procure ordnance alterations. The TERRIER Support equipment request of \$19.6 million in FY 1992 and \$21.1 million in FY 1993 will provide for modification to the TERRIER Missile Weapon Systems including Fire Control System MK-76, Weapons Direction System MK-14, Guided Missile Launching System MK-10, Communications Tracking Set AN/STR-1 and Ancillary support equipment. These modifications provide for CG/SM-2 performance improvements (Standard Missile (Extended Range) Block I missile capability), New Threat Upgrade performance improvements (Standard Missile 2 (Extended Range) Block II missile capability) and associated reliability/maintainability/availability improvements in CG-16/26/N9/N25/N35 Class ships. The requests in FY 1992 and FY 1993 of \$28.9 million and \$32.1 million, respectively, for the TARTAR Support equipment program are for improvements to the CGN/DDG/SM-2 Weapons Systems including Fire Control Radar Mods, Weapons Direction System (WDS MK-14), AN/STR-1, Downlink Receiver and Ancillary Modifications to provide capability to fire the SM-2 (MR) missile; and improvements to the Guided Missile Launching System MK-13 Mod 4 on the PPG-7 Class ships. The Point Defense Support equipment request of \$18.0 million in FY 1992 and \$7.6 million in FY 1993 will provide air defense of selected ships by upgrading the NATO SEASPARROW Surface Missile System including modifications to incorporate specific improvements to increase reliability. The \$1.2 million requested in FY 1992 and \$1.2 million requested in FY 1993 for Airborne ECM/ECCM will provide for equipment used to simulate projected enemy jamming tactics and techniques during Surface Warfare Systems evaluations and Fleet exercises. The AEGIS Support equipment request of \$47.0 million in FY 1992 and \$198.6 million in FY 1993 will provide shore based assets for the AEGIS Combat System/Educational Center to support the battle readiness of AEGIS Cruisers including AEGIS Combat System Center equipment and AEGIS Educational Center equipment. The Surface TOMAHAWK Support equipment request of \$53.5 million in FY 1992 and \$70.8 million in FY 1993 will procure Common Weapons Control Systems (CWCS), and Armored Box Launchers for surface ships missile landing systems. The FY 1992 request of \$3.4 million and the FY 1993 request of \$3.4 million for the Submarine TOMAHAWK Support equipment program will procure modifications to the MK-117 Fire Control System for SNN 637 and 688 Class submarines to provide these submarines the

capability to launch the TOMAHAWK Cruise Missile. The Vertical Launch System's request of \$64.3 million in FY 1992 and \$82.4 million in FY 1993 will provide for installation of VLS systems on DD 963, and CG 47 class ships.

Strategic Platform Support Equipment (P-1 Line Items 216-218)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$84,024</u>	<u>\$56,781</u>

The FY 1992 request of \$84.0 million and the FY 1993 request of \$56.8 million for Strategic Platform Support equipment provides funding for ordnance support, ship alterations and test equipment for the TRIDENT submarine and TRIDENT Refit Facility (TRIREPAC) located at Naval Submarine Base (NSB), Bangor, Washington and numerous support facilities. A significant modernization program is the Combat Control System MK2 (CCS MK2) which provides the ADCAP torpedo capability plus display and simulator improvements which will provide important operability enhancements in SSBN Platforms. In addition, funds are requested for the procurement of Strategic Weapon System (SWS) equipment for deployed SSBNs and shore support sites to support the POSEIDON (C-3), TRIDENT I (C-3), TRIDENT I (C-4) and TRIDENT II (D-5) programs and procurement of Strategic Weapons System equipment and ship system ordnance equipment needed to establish the Navy Submarine Base, Kings Bay Georgia. In addition, \$11.3 million requested in FY 1993 provides for the disposal of strategic ordnance in compliance with the START treaty.

ASV Support Equipment (P-1 Line Items 219-222)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$101,810</u>	<u>\$126,323</u>

The FY 1992 request of \$101.8 million and FY 1993 request of \$126.3 million is for Anti-Submarine Warfare Support equipment which includes funding for the All Digital Attack Center (ADAC), the FCS MK-117 increased Display and Conversion for Over the Horizon targeting, Advanced Capability (ADCAP) Torpedo, and FCS MK-117/CCS MK-1/MK-2 Improvements. The Combat Control System Obsolete Equipment Replacement (CCS OER) program helps to standardize hardware and software, ensuring commonality with the AN/BSY-1 and Trident SSBN's. Replacing obsolete components with modernized versions will result improved reliability, maintainability and operability. In addition,

FY 1992 and FY 1993 funding will support procurement of various upgrades to submarine and surface torpedo tube equipment, Anti-Submarine Rocket (ASROC) launchers, various test equipments. These funds will also provide for the procurement of Anti-Submarine Warfare torpedo exercise and shore support equipment, range equipment for Fleet Operational Readiness, Accuracy Check Sites (PORACS) and Sensor Accuracy Check Sites (SACS), and test equipment to support Weapon System Accuracy Trials (WSAT).

Other Ordnance Support Equipment (P-1 Line Items 223-229)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$27,084</u>	<u>\$31,069</u>

The FY 1992 request of \$27.1 million and the FY 1993 request of \$31.1 million for Other Ordnance Support equipment are for various ordnance programs not budgeted under other programs within this budget activity. Some of the major programs include: Explosive Ordnance Disposal equipment, Unmanned Seaborne Targets, and Stock Surveillance equipment. The request in both FY 1992 and FY 1993 for Explosive Ordnance Disposal equipment provides for procurement of necessary EOD tools and equipment required for initial outfitting of EOD units. These equipments provide ordnance location and safe disposal of unexploded ordnance. The request for Unmanned Seaborne Targets provides Surface Seaborne Targets for Fleet training, with procurement of Septar Targets and Floating Automatic Scoring Target (FAST) hulls in FY 1992 and continuing in FY 1993. The request in FY 1992 and FY 1993 for Stock Surveillance equipment provides resources for determining safety, reliability, readiness, and service/shelf life of both stored and deployed Navy and Marine Corps tactical weapons and weapon systems and the causes for degradations. Other programs included in the FY 1992 and FY 1993 request are Anti-Ship Missile Decoy System, Calibration equipment, and Other Ordnance Training equipment.

Other Expendable Ordnance (P-1 Line Items 230-238)

(\$ In Thousands)	
FY 1992	FY 1993
<u>\$44,686</u>	<u>\$62,322</u>

The FY 1993 request of \$62.3 million supports fleet mine support, mine neutralization and ship expendable countermeasures procurements. The request for Fleet Mine Support Equipment in FY 1992

and FY 1993 provides for the procurement of material and production support services for the assembly of mines in stockpile. The request also provides for support of fleet proficiency training, mine warfare and mine countermeasures training, and improved stockpile mine performance. The Shipboard Expendable Countermeasures Program Provides for Anti-Ship Missile Decoys deployed from the MK-36 Decoy Launching System. The FY 1992 and FY 1993 request provides for SEA GNAT RF Decoys.

BUDGET ACTIVITY 5: CIVIL ENGINEERING SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
(\$ In Thousands)

Budget Plan (Amount for Procurement Actions Programmed)					
	<u>FY 1990 Actual</u>	<u>FY 1991 Estimate</u>	<u>FY 1992 Estimate</u>	<u>FY 1993 Estimate</u>	Justification Page
Passenger Carrying Vehicles	\$6,478	\$7,119	\$7,129	\$6,912	43
Trucks, Trailers, Construction and Maintenance Equipment	60,269	53,154	63,095	56,928	44
Amphibious Equipment and Combat Construction Support Equipment	16,313	6,304	88,509	7,779	44
Other Equipment	25,526	21,764	33,542	37,354	45
Total Budget Plan	\$108,586	\$88,341	\$192,275	108,973	

BUDGET ACTIVITY 5: CIVIL ENGINEERING SUPPORT EQUIPMENT

	(\$ in Thousands)		
FY 1993 Estimate -	\$108,973		
FY 1992 Estimate -	\$192,275		
FY 1991 Estimate -	\$ 88,341		
FY 1990 Actual -	\$108,586		

Purpose and Scope of Work

Funds provided under this budget activity are for the procurement of passenger carrying vehicles, trucks and trailers, construction, earthmoving, maintenance, fire fighting, weight handling, amphibious and specialized equipment, combat construction support equipment, mobile utilities support equipment, fleet moorings, collateral equipment for the initial outfitting of military construction projects, pollution control equipment, and equipment used for construction of underwater facilities. This equipment is procured for Navy-wide use by the Operating Forces and Shore Establishment including passenger carrying vehicles for Industrial Fund activities.

Justification of Funds**Passenger Carrying Vehicles - (P-1 Line Items 239 & 240)**

	(\$ in Thousands)	
FY 1992	\$ 7,129	FY 1993
	<u>\$ 6,912</u>	

This category provides for replacement and limited augment of buses, sedans, station wagons and armored sedans for all Navy activities. Included are replacement vehicles for Navy Industrial Fund (NIF) activities in compliance with the 97th Congress House of Representatives Conference Report No. 97-80. The FY 1992 program provides for the replacement of 364 vehicles leaving 2,108 in the inventory which exceed economic replacement criteria. The FY 1993 program provides for the replacement of 452 vehicles leaving an additional 2,048 in the inventory which exceed economic replacement criteria. This category does not include ambulances, which are addressed below.

Trucks, Trailers, Construction and Maintenance Equipment - (P-1 Line Items 241-247)

(\$ in Thousands)	
FY 1992	FY 1993
<u>\$63,095</u>	<u>\$56,928</u>

This category includes trucks, trailers, generators, crushing, drilling, earth moving, fire fighting and weight handling equipment and ambulances for the protection and maintenance of Naval Shore Activities, Naval Construction Forces, and various other Operations Forces worldwide. Funding includes initial outfitting of the Advanced Base Functional Component (ABFC), \$559 million in FY 1991 and \$586 million in FY 1993, The Reserve Naval Construction Force (RNCF), \$7.833 million in FY 1992 and \$1.173 million in FY 1993, and the Assault Follow-on Echelon (AOE), \$4.383 million in FY 1992 and \$2.529 million in FY 1993.

Amphibious Equipment/Combat Construction Support Equipment (P-1 Line Item (248 - 249))

(\$ in Thousands)	
FY 1992	FY 1993
<u>\$88,509</u>	<u>\$ 7,779</u>

These funds provide specialized amphibious equipment which significantly enhances the Navy's capability to support Marine Corps amphibious operations through the ship-to-shore transfer of both dry and liquid cargo and as a key part of the Strategic Sealift Program. This equipment will be used by the Amphibious Construction Battalions in the Assault Echelon and the Assault Follow-on Echelon phases of amphibious operations to provide essential logistic support in advanced areas having little or no port capability. The amphibious dry cargo transfer equipment in the FY 1992 program includes non-powered causeway sections and other miscellaneous specialized amphibious equipment. Combat Construction Support Equipment consists primarily of relocatable facilities such as storage magazines, fuel storage tanks, multipurpose shelters and containers, and panel buildings in support of Naval Construction Force personnel. The FY 1992 and FY 1993 programs include the outfitting of Naval Mobile Construction Battalions with containers for prepacking Table of Allowance items and provide shelters for the protection of personnel against chemical agents at overseas Naval Bases.

Other Equipment - (P-1 Line Items 249 - 255)

(\$ in Thousands)

	FY 1992	FY 1993
	<u>333,542</u>	<u>\$37,354</u>

Other programs in Budget Activity 5 include Mobile Utilities Support Equipment which provides electric power and high quality steam for support to the fleet while in port, and for emergency shore operations, serious utility system deficiencies and delayed military construction. Collateral Ocean Facilities Construction Equipment is associated with initially outfit military construction projects, warfare and other fleet underwater construction programs. Fleet Moorings procures the components for overhauling fleet moorings worldwide. Pollution control equipment is for compliance with the Clean Air Act and Clean Water Act Amendments, various Environmental Protection Agency Regulations and State Implementation Plans. Also included is Other Civil Engineering Support Equipment for Administrative and Public Works Shop Equipment.

BUDGET ACTIVITY 6: SUPPLY SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
 (\$ In Thousands)

Budget Plan
 (Amounts for Procurement Actions Programmed)

	PY 1990 <u>ACTUAL</u>	PY 1991 <u>ESTIMATE</u>	PY 1992 <u>ESTIMATE</u>	PY 1993 <u>ESTIMATE</u>	JUSTIFICATION PAGE
Material Handling Equipment and Systems	\$12,268	\$10,543	\$4,855	\$3,778	47
Other Supply Support Equipment	18,490	15,360	9,493	14,039	47
Classified Programs	116,437	161,879	131,737	153,602	48
First Destination Transportation	0	19,900	17,633	17,163	48
Total Budget Plan	\$147,195	\$207,682	\$163,718	\$188,582	

BUDGET ACTIVITY 6: SUPPLY SUPPORT EQUIPMENT

	(\$ In Thousands)	
FY 1993 Estimate	\$188,582	
FY 1992 Estimate	\$163,718	
FY 1991 Estimate	\$207,682	
FY 1990 Actual	\$147,195	

Purpose and Scope of Work

This budget activity finances the procurement of forklift trucks and other materials handling equipment used at Navy installations and aboard ships; automated materials handling systems; investment type support equipment; reprographics equipment; and first destination transportation costs for other procurement acquisitions. In addition, financing for certain classified projects is included in this activity.

Justification of Funds

Materials Handling Equipment and Systems (P-1 Line Items 256-258)

	(\$ In Thousands)	
FY 1992	\$4,855	FY 1993 \$3,778

These funds are requested to procure forklift trucks in FY 1992 and FY 1993 which are needed for the cyclical replacement of overage equipments aboard ships and at shore activities which are more costly to maintain than to replace.

For Other Materials Handling equipment, the FY 1992 and FY 1993 requests represent a phased equipment replacement program designed to reduce the significant level of overage warehouse tractors, cranes and other equipment in the inventory.

Other Supply Support Equipment (P-1 Line Items 259-260)

	(\$ in Thousands)	
FY 1992	\$9,493	FY 1993 \$14,039

The request for Other Supply Support equipment includes the procurement of shop and office equipment, reprographics, uninterrupted power service units, enlisted dining facilities equipment, office automation, and pollution control projects.

Classified Programs (P-1 Line Item 262)

(\$ In Thousands)		
FY 1992	FY 1993	
<u>\$131,737</u>	<u>\$153,602</u>	

Details of this program are of a higher classification. Justification is provided separately.

First Destination Transportation (P-1 Line Item 261)

(\$ In Thousands)		
FY 1992	FY 1993	
<u>\$17,633</u>	<u>\$17,163</u>	

The requested funds are for First Destination Transportation costs associated with the movement of newly procured equipment and material from the contractor's plant to the initial point of receipt by the government. Beginning in FY 1991 these costs are budgeted in procurement to more accurately identify total equipment fielding costs.

BUDGET ACTIVITY 7: PERSONNEL AND COMMAND SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
(\$ In Thousands)

Budget Plan
(Amounts for Procurement Actions Programmed)

	FY 1990 ACTUAL	FY 1991 ESTIMATE	FY 1992 ESTIMATE	FY 1993 ESTIMATE	JUSTIFICATION PAGE
Training Equipment	\$43,765	\$115,410	\$112,879	\$158,930	50
Command Support Equipment	185,361	157,624	183,417	225,029	51
Industrial Depot Maintenance Equipment	310,886	293,002	-0-	-0-	N/A
Computer Acquisition Equip	74,470	134,413	126,965	148,764	52
Productivity Programs	30,784	17,781	53,027	51,032	52
Total Budget Plan	\$645,266	\$718,230	\$476,288	\$583,755	

BUDGET ACTIVITY 7: PERSONNEL AND COMMAND SUPPORT EQUIPMENT

	(\$ In Thousands)
PY 1993 Estimate	\$583,755
PY 1992 Estimate	\$476,288
PY 1991 Estimate	\$718,230
PY 1990 Actual	\$645,266

Purpose and Scope of Work

This budget activity finances the procurement of Training Equipment, Command Support Equipment, Computer Equipment and Productivity Investment Programs.

Justification of Funds

Training Equipment (P-1 Line Items 263-269

	(\$ In Thousands)
FY 1992	FY 1993
\$112,879	\$158,930

Surface training devices will provide maintenance, operator, team, and refresher training for new combat systems/capabilities being introduced into the fleet. Requested funding supports a variety of cost effective devices including Surface Sonar Trainers, Ship System Trainers, Submarine Sonar Trainers, Submarine Combat System Trainers, Submarine Sonar Trainers, Submarine Combat Systems and Trainers and Surface Combat System Trainers (FY 1992, \$50.0 million; FY 1993, \$106.0 million).

Funding is required to procure Training Support Equipment (TSE) consisting of minor training aids and devices to support the education and training programs which supply the Fleet with effectively trained personnel (FY 1992, \$5.7 million; FY 1993, \$4.0 million).

Training Device Modifications provide cost-effective enhancements to update the existing inventory of training devices. The modifications help maintain the training value of devices and keep them compatible with equivalent changes made to the fleet operational equipments which these devices simulate (FY 1992, \$57.1 million; FY 1993, \$48.8 million).

Command Support Equipment (P-1 Line Items 270-278)

(\$ In Thousands)
FY 1992 FY 1993
\$183,417 \$225,029

This funding provides for the procurement of items which have a unit cost over \$15 thousand including Command Support, Intelligence Support, Education Support, Medical Support, Operating Forces Equipment, Naval Reserve Support, Oceanographic Support, Physical Security Support, and Centrally Managed equipment with a unit cost less than \$15 thousand.

This request includes acquisition of equipment needed for the Naval Intelligence Command and its field activities. It is a part of the General Defense Intelligence Program (GDIP) requirements. Details on this classified program are contained in the Intelligence Justification Books, provided separately.

Funding is also requested to procure Medical Support equipment to be located in the United States. Funds requested to replace existing worn-out, obsolete assets located in the United States will provide for the acquisition of new technological developments for a modern health care delivery system.

Funds are requested to procure Oceanographic equipment required to collect, analyze, and disseminate environmental data. This data is critical for precise positioning, navigation, and targeting of enemy air, surface, and sub-surface weapon systems.

Funds are requested in FY 1992 and FY 1993 to continue procuring security systems to protect nuclear weapons afloat and ashore. It continues to provide for increased security of areas, ammunition and explosives.

Funds are requested for acquisition of equipment to support Chief of Naval Operations field activities, Naval Military Personnel Command, Naval Telecommunications Command, Office of the Secretary of the Navy, Naval Reserves, Naval Academy, Naval Postgraduate School, Naval War College, and Headquarters of Pacific, Atlantic, and Europe Fleet Commands.

Computer Acquisition Program (P-1 Line Item 280)

(\$ In Thousands)

	FY 1992	FY 1993
\$126,965	\$148,764	

The Computer Acquisition Program (CAP) was established to optimize the procurement of general purpose Automated Data Processing Equipment (ADPE) Navy-Wide. The procurement of ADPE through the CAP represents the culmination of several planned and developed ADP systems that are ready for deployment and introduction throughout the Fleet. The workload that is performed directly supports such day-to-day efforts as fleet supply and logistics, maintenance, financial and personnel management, health management, all of which are currently either performed manually or in part by using old, obsolete, unreliable data processing support. The automation and upgrade capability funded by the CAP will lighten Fleet workload and modernize ADP, directly improving overall Fleet readiness.

Productivity Programs (P-1 Line Items 281-282)

(\$ In Thousands)

	FY 1992	FY 1993
\$53,027	\$51,032	

Funds requested for the Productivity Investment Fund and Productivity Enhancing Incentive Fund are used to purchase improved general purpose equipment, tools and procedures. The objective of productivity investments is to apply capital investment in exchange for labor intensive and costly operations in government by investments in modern equipment, methods and labor saving devices. It also realizes a continuing stream of benefits through the reduction of recurring operating costs. Projects involve the replacement of old and outmoded equipment and procedures to reduce inefficiency and maintenance costs. This frequently implants new technology as well as enabling growth in efficiency and the solution of emerging problems in operations and logistics. The technology factor has been credited with at least 40 percent of all productivity growth over the past five decades of domestic experience. Productivity investments directly address the unfunded backlog of compelling investment opportunities existing in the Navy.

BUDGET ACTIVITY 8: SPARES AND REPAIR PARTS
SUMMARY OF BUDGET PLAN
 (In Thousands)

Budget Plan
 (Amounts for Procurement Actions Programmed)

	FY 1989 Actual	FY 1990 Estimate	FY 1991 Estimate	FY 1993 Estimate	Justification Page
Spares and Repair Parts					
Initial	\$199,691	\$223,650	\$275,124	\$274,202	54
Replenishment	23,141	20,533	21,380	19,073	54
Outfitting	185,652	273,845	218,885	274,775	54
Total Budget Plan	\$408,484	\$518,028	\$515,389	\$568,050	

BUDGET ACTIVITY 8: SPARES AND REPAIR PARTS (P-1 LINE ITEM 283)

	(\$ in Thousands)
PY 1993 Estimate	\$568,050
PY 1992 Estimate	\$515,389
PY 1991 Estimate	\$518,028
PY 1990 Actual	\$408,484

Purpose and Scope of Work

Budget Activity 8 provides for all Other Procurement, Navy (OPN) spares. The funding requested provide for the procurement of spares and repair parts for all equipments requiring support by the Systems Commands prior to transitioning into the Navy supply system and is divided between initial spares (\$275.1 million in FY 1992 and \$274.2 million in FY 1993), replenishment spares (\$21.4 million in FY 1992 and \$19.1 in FY 1993), and outfitting spares (\$218.9 million in FY 1992 and \$274.8 million in FY 1993). The PY 1992 and PY 1993 initial spares procurement includes support for ships initial spares, communications and electronics initial spares, aviation initial spares, ordnance initial spares, and civil engineering initial spares. Replenishment spares includes support for aviation, ordnance and PBM spares. Outfitting spares predominantly provides spares to support e.d items as the ships are modernized.

**Comparison of FY 1990 Program Requirements as Reflected
In PY 1991 Budget With FY 1990 Program Requirements as
Shown in FY 1992/1993 Biennial Budget**

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program Requirements Per PY 1991 Budget	Program Requirements Per FY 1992/1993 Biennial Budget	Increase (+) or Decrease (-)
1. Ships Support Equipment	3,372,196	3,507,075	+134,879
2. Communications & Electronics Equipment	1,517,267	1,466,996	-50,271
3. Aviation Support Equipment	577,781	590,979	+13,198
4. Ordnance Support Equipment	729,845	695,824	-34,021
5. Civil Engineering Support Equipment	101,181	108,586	+7,405
6. Supply Support Equipment	143,096	147,195	+4,099
7. Personnel & Command Support Equipment	667,822	645,266	-22,556
8. Spares & Repair Parts Reimbursable Program	413,596 130,000	408,484 127,006	-5,112 -2,994
Total Fiscal Year Program	7,652,784	7,697,411	+44,627

EXPLANATION BY BUDGET ACTIVITY

1. Ships Support Equipment (\$134.9 million)

The increase of \$134.9 million resulted from the following: Reappropriation of funding related to Hugo damage (\$5.0 million); proposed DD 1415 to fund ship installation costs (\$131.6 million); other minor below threshold reprogrammings (-\$1.7 million).

2. Communications and Electronic Equipment (\$-50.3 million)

The decrease of \$50.3 million resulted from the following: Proposed DD 1415 to BA1 to fund installation costs (\$-56.5 million); proposed DD 1415 for DOD counternarcotics (\$1.2 million); approved 1415s for DOD counternarcotics (\$1.4 million); Reappropriation for Hugo (\$-1.7 million); approved reprogramming to the State Department for Jordon requirements (\$-4.8 million); other minor below threshold reprogrammings (\$10.1 million.)

3. Aviation Support Equipment (\$13.2 million)

The increase of \$13.2 million resulted from the following: Reappropriation for Hugo (\$13.1 million); proposed DD 1415 to BA1 to fund installation costs (\$-11.8 million); and other minor below threshold reprogrammings (\$11.9 million).

4. Ordnance Support Equipment (\$-34.0 million)

The decrease of \$34.0 million resulted from: Proposed DD 1415 to BA1 to fund installation costs (\$-54.3M); other minor below threshold reprogrammings (\$20.3 million).

5. Civil Engineering Support Equipment (\$7.4 million)

The increase of \$7.4 million resulted from the following: Proposed DD 1415 to BA1 to fund installation costs (\$1.3 million); reappropriation for Hugo (\$-9.3 million); other minor below threshold reprogrammings (\$15.4).

6. Supply Support Equipment (\$4.1 million)

The increase of \$4.1 million resulted from the following: Prepared DD 1415 to BA1 to fund installation costs (\$-4.9 million); other minor below threshold reprogrammings (\$9.0 million).

7. Personnel and Command Support Equipment (\$-22.6 million)

The decrease of \$22.6 million resulted from the following: Reappropriation of funding related to Hugo damage (\$6.3 million); proposed DD 1415 to BAL to fund installation costs (\$2.8 million); other minor below threshold reprogrammings (\$-26.1 million)

8. Spares and Repair Parts (\$-5.1 million)

The decrease of \$5.1 million resulted from the following: Minor below threshold reprogrammings (-\$5.1 million)

9. Relievable Program (\$3.0 million)

The increase of \$3.0 million resulted from actual reimbursable collections.

Comparison of FY 1991 Program Requirements as Reflected
FY 1991 Budget With FY 1990 Program Requirements as
Shown in FY 1992/1993 Biennial Budget

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program Requirements Per FY 1991 Budget	Program Requirements Per FY 1992/1993 Biennial Budget	Increase (+) or Decrease (-)	
			Program Requirements Per FY 1992/1993 Biennial Budget	Program Requirements Per FY 1992/1993 Biennial Budget
1. Ships Support Equipment	1,388,955	1,388,235	-720	
2. Communications & Electronics Equipment	2,020,969	1,771,837	-249,132	
3. Aviation Support Equipment	283,787	375,050	+91,263	
4. Ordnance Support Equipment	600,636	481,776	-118,860	
5. Civil Engineering Support Equipment	88,468	88,341	-127	
6. Supply Support Equipment	478,430	207,682	-270,748	
7. Personnel & Command Support Equipment	748,577	718,230	-30,247	
8. Spares & Repair Parts Reimbursable Program	521,678 96,000	518,028 96,000	-3,650 0	
Total Fiscal Year Program	6,227,500	5,645,179	-582,321	

EXPLANATION BY BUDGET ACTIVITY

1. Ship Support Equipment (\$-.7 million)

The decrease of \$.7 million resulted from the following: Specific Congressional reductions (\$-4.6 million); proposed DD 1415 to MPN (\$-2.0 million); other below threshold reprogrammings (\$5.9 million).

2. Communications and Electronic Equipment (\$-249.1 million)

The decrease of \$249.1 million resulted from the following: Specific Congressional reductions (\$-214.5 million); proposed rescission of AN/SQR-18 (\$-10.0 million); proposed DD 1415 to fund DOD counter narcotics (\$1.0 million); proposed DD 1415 from VFN to fund installation costs (\$11.5 million); proposed DD 1415 to SCN (\$-4.0 million); other below threshold reprogrammings (\$-33.1 million).

3. Aviation Support Transfer Equipment (\$91.3 million)

The increase of \$91.3 million resulted from the following: Specific Congressional conference and bill adjustment for Sonobuoys (\$86.7 million); other below threshold reprogrammings (\$4.6 million).

4. Ordnance Support Equipment (\$-118.9 million)

The decrease of \$118.9 million resulted from the following: Specific Congressional reductions (\$-5.8 million); proposed transfer to SCN (\$-8.2 million) and MPN (\$-1.5 million); proposed DD 1415 to MPN (\$-56.7 million); other below threshold reprogrammings (\$-46.7 million).

5. Civil Engineering Support Equipment (\$-.1 million)

The decrease of \$.1 million is associated with below threshold reprogrammings.

6. Supply Support Equipment (\$-270.7 million)

The decrease of \$270.7 million resulted from the following: Specific Congressional reductions (\$-212.3 million); other below threshold reprogrammings (\$-58.4 million).

7. Personnel and Command Support (\$-30.3 million)

The decrease of \$30.3 million resulted from the following: Specific Congressional reductions (\$-38.8 million); proposed transfer reprogramming to SCN (-\$2 million) and MPN (\$-1.5 million); other below threshold reprogrammings; (\$10.0 million).

8. Spares and Repair Parts (\$-3.7 million)

The decrease of \$3.7 million resulted from the following: Specific Congressional reductions (\$-12.6 million); other below threshold reprogrammings (\$8.9 million).